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FOUNDED BY WILLIAM HUNTING, F.R.C.V.S.

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VERMINOUS ANEURISMS AND COLIC.

Recently Mr. Noël Pillers, in one of those parasitological discourses which make him so welcome a visitor to veterinary societies, alluded to this important subject. Its present position is not quite creditable to veterinary science in any country, and certainly not in ours. Sclerostomum larvæ were first seen in the mesenteric arteries almost 250 years ago. Their causal relationship with colic became the object of attention during the nineteenth century; and the chief credit in working out the connection belongs to Bollinger. Bollinger fell into an error to which men who demonstrate new pathological truths are especially prone; and undoubtedly he greatly over-rated the pathogenic importance of these worm aneurisms. Perhaps the recognition of this has led clinicians of a later period to unduly neglect them; for they do not now receive the attention they deserve from a good many of us. In theory, they are almost universally recognised as one of the many factors capable of causing colic. In practice, they are too often ignored.

This is one of many openings for research in private practice. Many clinicians have ample opportunities of undertaking systematic search for worm-aneurisms and enquiry into their connection with colic; and such work, if rightly undertaken, brings its own reward.

The aneurisms, unless specially searched for, are easily overlooked post-mortem; but it is quite certain that, in many districts at least, they are extremely common. Whether they are very often concerned in colic is not so clear, nor would tracing the connection between an aneurism found in an individual case and gross lesions of a portion of intestine be always an easy task. The investigation would demand much general knowledge of intestinal post-mortem changes, a great deal of care and judgment in estimating the nature of lesions, and a very accurate acquaintance with regional anatomy, including the peculiarities of the intestinal blood supply. But, though difficult, the work would be full of interest; and a sufficient number of such observations might yield valuable results. They certainly would not lead us back to Bollinger's old view that 50 per cent. of all fatal cases of colic are thrombo-embolic, and that every sudden case not traceable to any clear cause may be so classified. But they might show us that colic from worm aneurisms is commoner in England—perhaps much commoner—than many of us suppose; and in doing this they might add to our diagnostic powers. The last would be a great gain; for some lines of treatment which are good in many other forms of colic are contra-indicated in this one.

TUBERCULAR CEREBRAL MENINGITIS IN BULLOCK.

On October 24th an Irish bullock was seen with this condition.

The symptoms manifested were, bleeding from left nostril (this may have been traumatic), staggering gait, and both horns were loose.

The animal was slaughtered and the sub-maxillary, retropharyngeal and mediastinal lymphatic glands were found affected with old standing tuberculosis. There were many tuberculous deposits about the size of millet seeds on the meninges of the medulla oblongata and pons varolii. Macroscopically no lesions were observed in the substance of the brain.

Time at my disposal did not allow of an accurate dissection being made of the lymphatic vessels of the head, but it is likely that the disease reached the cranial cavity by such.

Cases of tuberculosis affecting the meninges and brain present great difficulties in diagnosis, and on post-mortem examination of puzzling cases, where nothing to account for the illness is found elsewhere, the brain should always be examined.

W. J. YOUNG, F.R.C.V.S., D.V.S.M. (Vict.).

TUBERCULOSIS (?) IN A HORSE.

On Oct. 10th a horse was brought to me to see, suffering from a nasty discharge from both nostrils. I was then informed that ever since he had had a bad attack of pneumonia, 18 months previously, he had been suffering from a nasal discharge which sometimes got better and then got worse again. His temperature was 102. The horse looked very weak and thin and was very distressed and done up, so he was destroyed.

As it was a rest day I was able to make a post-mortem examination. The right lung had hardly any normal lung tissue remaining in it. A small portion was in a state of white hepatisation from recent pneumonia, and there were numerous gangrenous centres varying in size from a pea to a walnut with calcareous and caseous matter in their walls. The larger ones were of a greenish-black colour. The left lung contained three large (Brazil nut) irregular abscesses containing pus and also one very large (tennis ball) cavity with calcareous deposits and fibrous tissue in its walls. (A medical officer who was with me informed me that it was typical of a chronic case of tuberculosis in the human subject). The bronchial and mediastinal glands were also enlarged, one showing

signs of caseation. The abdominal organs showed no naked eye appearance of disease. What makes the case so interesting to me is that the horse never missed a day's work since he came out here on Aug. 16.

In my opinion this horse was suffering from tuberculosis of long standing with recent pneumonia caused by septic infection. I should be very grateful if readers of your paper who have proved cases, by microscopic and other methods, to have been tuberculosis would give me their views of this case.

GRAHAM REES-MOGG,
4th Cavalry Brigade,
British Expeditionary Force.

October 17th.

ABSTRACTS FROM FOREIGN JOURNALS.

NOTES UPON SCIRRHOUS CORD.

Pomayer, of Obergunzberg, has written an interesting article upon scirrhous cord. He regards it as certain that infection is not directly introduced by the actual operation of castration, whatever be the method by which the veterinary surgeon performs it. He attributes the infection to defective after-treatment of the castration wounds and to the litter. He is also of the opinion that chronic or recurrent suppuration from the stump of the spermatic cord or from the scrotum is caused and maintained not only by botryomyces, but by different species of pyogenic organisms. Further he finds that it is not in every case that the spermatic cord alone is attacked by the chronic suppurative inflammation. The scrotal tissues only may be attacked; and the spermatic cord, though its stump, adherent to the scrotal tissues, may be affected, may also be soft and normal for the remainder of its course. The term "fistula of the spermatic cord" is still commonly used in Germany to denote all suppurations from the region of the castration scars. The author suggests a revision of this nomenclature, and the use of the terms "fistula of the spermatic cord" and "scrotal fistula," in accordance with the region of origin of the lesions.

The author remarks that it is not easy to explain the long latency and the sudden appearance of suppuration in such cases as those he proceeds to describe. The nature of the tissues of the region, however, renders it possible for pyogenic organisms to remain for a long time enclosed before causing suppuration. Contusions, and perhaps differences of temperature, play a part in the etiology by rendering the tissues more sensitive to subsequent irritation by bacterial toxins. After these preliminary considerations, the author describes the three following cases.

Case I was a heavy four-year-old gelding, which had been castrated about about six months before. Without any previous local or general disturbance, he showed dullness for a few days, with slight swelling of the scrotum, but with no loss of appetite. The gait was somewhat uncertain and straddling. After a few days the owner noticed some drops of pus flowing from a fistula in one of the castration scars. The author was called in, found the stump of the left spermatic cord lumpy and considerably thickened, and extirpated it near the inguinal ring, together with a portion of sound tissue. The distal end of the stump of the cord was purulent and granulating. A few centimetres (1 centimetre = 2-5th inch) from it and without any macroscopically demonstrable connection with it, some fine yellow twigs about 1-50th of an inch thick were seen imbedded in the fibrous tissue of the spermatic cord. These twigs contained botryomyces, but there was no central area of softening. The right spermatic cord was quite normal. Four years later no recurrence had taken place.

Case 2 was a five-year-old gelding of medium weight, castrated about three years before. The author extirpated a fibroma the size of the fist from the prepuce near its reflexion on to the penis. No scrotal fistula was apparent before the operation. The wound healed well; but, a few days after the operation, a marked swelling of the scrotal region appeared. Scarification of this revealed first minute abscesses of the sebaceous glands, and then small isolated collections of pus behind them. Within a few days these small abscesses spread, communicated, and became so extensive that the author feared, when exploring them, that he might penetrate into the inguinal ring. The phlegmonous condition and the small abscesses now spread downwards on the penis almost to the operation wound, which, however, continued to do well. Finally the under part of the abdomen in front of the prepuce swelled, a metastasis appeared over the last rib, and at the same time the scrotal suppuration continued to increase. The appetite, which hitherto had been good, began to fail; and, as it appeared useless to try and combat the suppuration, the horse was destroyed.

Post-mortem examination showed all the internal organs to be unaltered. The erectile portion of the penis was quite normal for the whole of its extent. No connection could be traced between the operation wound and the small metastatic abscesses of the prepuce and the earlier portion of the penis. Both scrotal cavities, however, were filled with thin pus; each cavity containing about a cupful. There was no visible connection of these cavities with the remaining abscesses of the subcutis; the scrotal abscesses were apparently encapsuled centres of pus occupying what was formerly the scrotum. The spermatic cords merged at their ends into the firm connective tissue of the walls of the abscesses; and in the remainder of their course they were soft and thin, and showed no lesions. The swelling of the under part of the abdomen was jelly-like, and without suppuration. The author does not believe that the suppuration arose from infection from the operation wound. He suggests that pyogenic organisms had remained concealed in the scrotum for a long time, and had been affected by bruising when the horse was thrown for operation—without

which stimulation they might have remained imprisoned for a long further period. Nevertheless he confesses that the long stay of the organisms in the tissues without causing any reaction is inexplicable.

Case 3 was a well-nourished heavy gelding, 16 years old, which had been in the possession of his owner for ten years. For the last eighteen months the scrotal region had repeatedly swelled, with or without the formation of pus. Diminution of the swelling and recovery took place spontaneously without any treatment, and the horse never showed dulness for more than one day.

At last an excessive swelling of the right scrotal region caused the author to be called in. In that region he found a very narrow fistulous canal 8 centimetres (=about 3 1-5th inches) long. The stump of the spermatic cord was soft, and not thickened. The region of the left scrotal scar showed a swelling anteriorly, which, when opened, discharged half a coffee-spoonful of thin pus. The remaining part of the neighbourhood of the left scar was not swollen; but the left spermatic cord was three or four times as thick as the right one, and was stone-hard and lumpy right up to the inguinal ring. Neither in the pus nor in the tissue obtained from the highest accessible point of this left abscess could botryomyces be found. On the other hand, the author scraped the empty right fistula with a fine curette, and obtained fresh granulation tissue containing botryomyces.

The author emphasises the peculiar features of this case. On the right side a fistula ran up to the stump of the spermatic cord, botryomycosis was demontrated in the scrotal tissue that composed its walls, marked swelling of the surrounding subcutis was present, and yet the spermatic cord itself was unaltered. On the left side the surrounding swelling was absent, purulent swelling of the scar and marked lesions of the spermatic cord were present, but botryomyces could not be demonstrated even in the furthest accessible tissues of the abscess.

The case was treated by irrigations; the swelling, suppuration, and fistula rapidly healed; and the horse soon recovered. The appetite was scarcely disturbed. After an interval of half a year, similar conditions reappeared—swelling and suppuration (it is not stated on which side), and speedy recovery. Another year had elapsed at the time the author wrote, and no further recurrence had taken place.—(*Munch. Tier. Woch.*)

The Action of Sennatin.

E. Rüegger, of Zurich, has been carrying out a series of experiments upon the action of sennatin on animals. As experimental subjects he used five rabbits, two cats, three dogs, one goat, one ox, and two horses; and he administered the sennatin both subcutaneously and intraperitoneally. His results are stated as follows:—

In the rabbit, injected subcutaneously or intraperitoneally, sennatin had a good and, especially when given intraperitoneally, a very rapid action. The dose for subcutaneous injection is from 0·3 to 0·8 c.c. per kilogramme of body weight, and for intraperitoneal injection from 0·2 to 0·7 c.c. per kilogramme.

In cats, the subcutaneous injection of 0·5 c.c. per kilogramme of body weight caused a purgative action which was fairly rapid in setting in and long in duration.

In dogs, the desired effect was produced in six hours by the *subcutaneous* injection of from 0·15 to 0·5 c.c. per kilogramme of body weight, and in four hours by the intraperitoneal injection of from 0·1 to 0·25 c.c. per kilogramme. The duration of the action varied with the size of the dose.

The author lays stress upon the fact that sennatin in no way irritates the kidneys. It is therefore especially to be recommended in those case—fairly common in dogs—in which intestinal and renal affections exist coincidently.

The excellent effect upon the intestine, however, was often accompanied by accessory symptoms which would not have been unimportant in the case of valuable animals. Rüegger frequently observed slight disturbances of the general condition, and, in the case of *subcutaneous* injections of 6 c.c. the formation of œdema at the site of injection. This œdema varied in importance, but was capabie of leaving permanent traces. On this account the author prefers intraperitoneal to subcutaneous injection.

In goats, no alteration of the intestinal action could be produced by such doses as were not accompanied by important accessory symptoms.

In the horse and ox, peristalsis was not influenced by *subcutaneous* injections; but œdemas of varying size, which in most cases left permenent cutaneous thickenings behind, appeared at the site of injection.

Rüegger's results upon the horse and ox do not agree with previous ones obtained by Zniniewiez and Siegert, who, it should be noted, experimented upon a larger number of animals than Rüegger. —(*Münch. Tier. Woch*).

W. R. C.

Annual Report of the Civil Veterinary Department, United Provinces, for the Year ending March 31st, 1914. [Abstract].

(*Concluded from p. 252*).

Investigation of Disease.—During the year the work of the laboratory has much increased, and a great number of specimens of blood, morbid tissues, intestinal parasites, and other material have been received from the district veterinary staff veterinary inspectors, district officers, and private persons, for examination and opinion. In these cases the results are noted and, where possible, the diagnosis confirmed and the persons interested accordingly informed. At the request of the Australian Government Entomologist an enquiry was made into the prevalence of "Onchocerca Gibsoni" or Worm Nodules in the cattle of this country. The necessary information and specimens were obtained and forwarded to the officer in question.

A new experimental station for the accommodation of animals under scientific observation, will be shortly opened, and it is hoped that not only we shall be able to do more towards the elucidation of obscure diseases,

but that it will afford also the younger members of the staff more opportunity for observation and study of methods of research. Much still remains to be done in connection with investigation of disease, but on account of the very large area of the Superintendents' charges and the rapidly increasing amount of work in connection with inspection and general administration of the department, it has not been possible to devote as much personal attention to this important branch of work as it really demands.

Veterinary Hospitals and Dispensaries. There are now 49 hospitals or dispensaries in the provinces as against 46 of last year. Five others are about to be established, and the question of new premises for the present hospital in Moradabad is now under consideration. There has been an increase in the number of patients treated, viz., 4714 in-patients and 51,753 out-patients against 4061 in-patients and 43,106 out-patients for 1912-13. These institutions continue to do excellent work and it is to be regretted that there are not more of them.

The system of charging a small scale of fees has now been adopted and is meeting with considerable success. It has been found to work well and in some cases so much income is realised as to render them practically self-supporting while other smaller institutions earn a not inconsiderable sum towards their expenses. It is much to be regretted that at certain district headquarters veterinary hospitals although urgently required have not yet been provided.

A veterinary dispensary at Bikapur, district Fyzabad, has lately been established by private subscription. Applications have also been received from the inhabitants of certain other places asking for the provision of such institutions. This, I think, clearly dispels any idea that these places are not keenly appreciated by the people.

Breeding Operations.

Bovine.—During the year under report a great many stud bulls have been supplied by this department, and are now maintained in 37 districts.

The number of these stud animals now at work in the province under our observation is 141. These have been chiefly obtained by this department by outside purchase, or from its own farms. Most of the animals are the property of district boards, courts of wards, co-operative credit societies, or influential land owners, and an increased amount of interest is taken in the question of cattle improvement. It is anticipated that the next few years will witness an enormous demand for stud animals, and all possible steps should be taken to provide for this contingency. A workable scheme for the general management, upkeep, distribution and stud work of the animals is being prepared for the guidance of those interested in the question.

Bull rearing and breeding farms and depots.

Kheri.—From a cattle survey made in 1906-7 of parts of North Oudh, where the breeding of certain active useful strains of cattle has for years been carried on as a profitable occupation, it was found that in some of these tracts this cattle-breeding industry was seriously diminishing, one of the chief causes being an insufficiency of suitable bulls. To remedy this a government cattle farm was established near Lakhimpur, Kheri, in 1910-11. To suit the various localities, the three celebrated strains of Kherigarh, Parehar, and Ponwar were to be provided. The farm is now in working order and annually producing the expected outturn of bulls. Already 56 sires have been issued and more will shortly be ready.

It is somewhat unfortunate that a few of these bulls were recently purchased by mistake for some of the western districts where a larger class of cattle is required, but it is hoped we shall before long be able to provide these tracts with the larger class of bulls from our newly-established farm at Muttra (see below).

Brood cows are gradually being introduced into the farm with the ultimate object of entirely breeding our own bulls. Improvements and additions to the buildings and the farm generally are being made, the jungle is being cleared, and the grass-land is being gradually improved. A very desirable strip of land 50·53 acres has now been added to the farm. There are at present 295 head of stock of the farm.

Muttra.—Another cattle farm to provide bulls for the improvement of the larger western breeds, and also for milking cattle has now been established at Madurikund. Although some difficulty and delay have been experienced in the erection of the buildings, etc., the farm has already been partly stocked with 76 animals and it is hoped that the first batch of bulls of the Hissar breed, and superior buffalo bulls will be ready to be issued at the end of 1916 as provided for in the sanctioned scheme.

Equine (under local bodies).—At the commencement of the year there were 57 horse and pony stallions at stud belonging to this department.

Five stallions were purchased during the year. Fifty-one stallions were at stud work during the year and the number of mares covered by these stallions amounted to 3003, which is again a very satisfactory increase of 244 on the previous year's coverings.

Young stock, the progeny of these provincial stallions, shows continued improvement and promise in many parts, particularly in the districts of Saharanpur, Moradabad, and Budaun. Some excellent colts and fillies have been seen at the Saharanpur fair, the progeny of "Achilles," "Oberon," and "Nelson," Arab stallions.

The Royal Horse-breeding Commission, in their report of 1900-01, considered that the unselected tracts were not suitable for the production of horses up to the standard required, as remounts. Here I am in agreement with them, but although also personally doubtful of the possibility of breeding horses up to that grade, it is evident that these localities are now proving themselves capable of producing much better animals than formerly.

Donkey stallions.—At the beginning of the year there were 16 provincial donkeys on the register, and 4 were since purchased from the Hissar cattle farm. Of these 14 were at stud, and the number of mares covered by them amounted to 709, which shows an increase of 117 on last year's figures. There appears to be still an increasing demand for the services of donkey stallions for mule-breeding, but as was mentioned last year, the limited number available renders it difficult to meet the demand. The Hissar jacks have not proved very successful, and the price of them has been considerably increased. Some arrangements for importing these sires seem imperative if the mule-breeding industry is to be encouraged as it deserves.

Sheep-breeding.—The results of sheep-breeding experiments recently undertaknn by this department with a view to ascertain how far it is possible to improve the quality and quantity of the wool of the indigenous sheep have up to the present proved very encouraging and satisfactory. The introduction of the merino strain has been found to have a very beneficial effect on both the quality and the quantity of the fleeces.

It being primarily of importance to find out in what parts of the province the climate and other conditions would be favourable to wool-growing, flocks of young ewes indigenous to the tract in which they are located have been formed, these have been crossed with pure merino rams and already a considerable number of half-breeds have been produced. Samples of the wool from the first shearing are being regularly submitted to wool experts who

have reported most favourably on the fleece. Some difficulty is experienced in acclimatising the pure merino stock and the mortality is somewhat high. The half-bred progeny, however, seem to do well. The future lines of experiment will be directed towards endeavouring to fix a type of sheep with the superior wool-producing capacity of the merino, but which will be able to stand the vicissitudes of the Indian climate.

Fairs and Shows. I personally attended the Etawah and Nauchandi fairs and Mr. Wilson was present and judged at those held at Hardoi, Fyzabad and Khairabad. The Deputy Superintendent visited the fairs and shows at Aligarh, Saharanpur, Bulandshahr, Etawah, Dewa, and Batesar for rendering assistance in the cattle judging, and giving demonstrations to the stock-owners in general management, and first aid in cases of emergency or disease.

It is somewhat doubtful if the system of distributing money in the form of prizes for cattle at fairs and shows is productive of much improvement in the local stock. A scheme is being drawn up with a view to distributing prizes locally in those areas chiefly where Government stud bulls are located for the best stock got by them. It is hoped by this means to encourage the breeder to look ahead and breed up to a higher standard than he has formerly done.

Subordinate Establishment.

The strength of the subordinate veterinary establishment as it stood on 31st March was:—Veterinary inspectors 15, farm overseers 2, veterinary assistants employed by district boards, 121; veterinary assistants employed by municipalities, 18; veterinary assistant employed by the society for the prevention of cruelty to animals, 1; and provincial veterinary assistants (including one at the Cawnpore agricultural farm), 16, or in all 173 against 162 last year, making an increase of 11 only.

As I mentioned last year, the staff is still far below the requirements of such an important public department. In spite of the various representations which have been made to district boards regarding the inadequacy of their veterinary staff, the increase this year has only amounted to three. Considering the annual financial loss which districts must suffer on account of cattle disease, not only in the value of the animals themselves, but by the loss of time and money sustained during busy seasons when every available bullock is required, it is difficult to understand how district boards can fail to realise the urgency of providing sufficient veterinary help for the people.

The veterinary inspectors continue to do very useful work and have been busily employed during the year in the inspection and checking the work of veterinary assistants, conducting inoculation campaigns, and other measures to suppress outbreaks; in inspecting and supervising the work connected with horse, cattle, and sheep-breeding and inspection and care of stud sires. Cattle pounds, dairy sheds, etc., have been visited by them and reports on the state of the working cattle and hackney carriage horses in municipalities have been furnished.

The provincial veterinary assistants have been found to be of the greatest assistance, and can always be most usefully employed. They are in many cases the only means of relieving district board veterinary assistants when they proceed on leave, and thus prevent a locality from being left entirely without veterinary help, such as frequently used to occur before this reserve staff was started. They are also sent in cases of emergency to assist districts, municipal bodies, and private owners, in cases of extensive outbreaks of disease, when the local staff is insufficient to deal with the situation, which is not an infrequent occurrence. They conduct inoculation campaigns and make special investigations and enquiries regarding disease, breeding operations, etc., and are often deputed to obtain morbid material for research purposes, and to collect parasites, flies, etc., connected with the spread of disease. Those veterinary assistants remaining at headquarters are afforded opportunities for laboratory work, which is likely to be a great help to them in the ordinary duties. Although a great many of the veterinary assistants working in districts and municipalities are capable of, and do perform very good work, I am of opinion that the standard of efficiency is not up to that of the provincial staff. Some reason for this may be found in the fact that they are not subject to the same discipline as these officers; they are the servants of the district boards or those bodies which actually pay them and as such they can often evade compliance with the wishes of the superintendent in technical matters which would not be easy to do if they were directly under the administrative and technical control of the civil veterinary department officers.

It is beginning to be generally realised that in those places where there is no hospital the practice of locating of a veterinary assistant in a suitable dispensary with a small supply of drugs and instruments at his disposal, is productive of more good work than if he is touring around an enormous area of country, in which case his work is bound to be more or less sketchy, and his work and movements very difficult to control. When stationed at a dispensary the neighbouring animal owners usually know where they can find him, and will bring their animals for treatment if necessary. In outbreaks of contagious disease he is expected to temporarily shut his dispensnry and proceed to the seat of disease.

Expenditure of the Department.

The cost of the department, according to the statement furnished by the Accountant-General, shows an increase, viz., Rs. 1,08,132 against Rs. 82,724 in the previous year. The increase is mainly due to the opening of the Madhurikund cattle farm at Muttra.

General Remarks.

The work of the civil veterinary department still continues to increase out of all proportion to the staff and facilities provided for it. In every branch of its work considerable progress has been made. There is also ample outside evidence that the department is steadily gaining popularity, and the demands on the services of its officers is daily growing larger. As the result of extended facilities for training in scientific methods, the efficiency of the subordinate staff is increasing. Whatever is possible is being done to render the department's activities primarily of benefit to the agricultural community.

Owing to the rapid expansion of the department and the wide scope of its activities it is evident that an increase in the superior staff will soon be imperative. I consider that for the future not less than three Imperial officers and three Deputy Superintendents will be necessary for the efficient control of the numerous branches of the work.

My thanks are due to Mr. C. W. Wilson, 2nd Superintendent, for the valuable assistance he has rendered during the year in the control of the department and investigation of disease, and also to Deputy Superintendent M. Niaz Mohamad, who has worked with great energy and conscientiousness. The work of the subordinate staff, both the clerical and technical, has been most satisfactory and deserves due credit.

E. W. Oliver, M.R.C.V.S., F.Z.S.,
Superintendent, Civil Veterinary Department,
United Provinces.

The official letter from the Secretary to Government, United Provinces, to the Director of Land Records and Agriculture, United Provinces, acknowledging the receipt of the Report, comments as follows:—

"The report brings out the rapidly growing importance of the department and the wide sphere of its activities. It is a record of excellent work, of which very little public notice is taken, but which is steadily gaining in popularity.

With the increasing difficulty of obtaining good cattle and the high prices which are now demanded for them, together with the attention which is now being paid to the milk supplies of cities, the responsibility of the department will soon exceed the capacities of the present number of officers. The increasing recognition of the value of inoculation work also requires a large controlling staff. The institution of a provincial college in the near future and an enlarged staff are the great desiderata of the department, and I am to say that both of them will receive careful consideration at the hands of the Government.

The Government would, however, like to see more rapid progress in the matter of cattle and sheep-breeding industries, and any scheme for expediting the advance in these branches of the work will be sympathetically considered.

Most of the district boards will now have sufficient resources at their disposal under their new contracts to increase largely their grants for veterinary work. You should therefore approach the boards as early as possible, with a view to strengthening their staff of veterinary assistants, if a sufficient number of qualified men are available.

In conclusion, I am to express the full appreciation of the Government of the way in which the heavy work of the department has been carried on by Mr. Oliver with the assistance of Mr. Wilson and M. Niaz Mohamad, who deserve great credit for their energy and success."

WATER IN THE DIET OF LIVESTOCK.

An Address by Mr. F. E. Place, B.V.Sc., M.R.C.V.S., Government Veterinary Lecturer.

"At a meeting of farmers there seems to be a fixed idea that a veterinary surgeon should talk disease and all the drugs of Araby. The Chinese are wiser: they pay their doctors, and no doubt their veterinary surgeons, too, as long as the patients under their charge remain healthy, and the subsidy stops when disease appears. The speaker is not prepared to say whether this method would meet with the approval of the veterinarians in this State or not, but in practice it is what the Stock and Brands Department carries out—the control and stamping-out of disease; and it appears to the speaker that the prevention of preventible troubles is a matter for farmers to closely consider for themselves; hence, he has chosen for a short talk to-day the importance and the value of water in the everyday diet of the animals of the farm. And in addressing a meeting at Orroroo, the importance of this item of diet will very forcibly impress itself upon his hearers. If the question is raised as to what is to be done if there is no water, then he would say there should be no stock. The striking of the rock by the diamond drill of the borer may produce the miraculous gushing forth of the water so anxiously desired by a thirsty land; but if waterholes without water, dams dry, and creeks crusted with salt are to be offered to thirsty stock, then, surely, the brains of the South Australian farmer must be utilised on the question of dry farming in relation to the vegetable kingdom rather than the animal; because common sense must plead for the necessity of an adequate water supply if animals are to be expected to live, let alone thrive. Paralysis, dry bible, and similar affections are, in a great number of cases, simply fancy names for shortness of water, which fluid forms more than half the body weight of an animal; and yet is often ignored altogether when the matter of building up that body is being discussed. It is the chief medium by which the nourishment of the food is carried into the blood, and the main cleanser of the bowels, and preventer of those forms of stoppage which account for so many deaths among stock in South Australia.

Water is of the highest importance in all the processes of change in the animal body which are spoken of as life, and it is especially so in the processes connected with digestion. It helps in chewing; by it the food is rendered fit to be absorbed by the bowels; it is the chief carrier of nutriment to the system, for without a sufficiency the blood is unable to utilise the food offered to it; its evaporation by the skin and lungs is one of the chief means of keeping the body at a suitable temperature; and its presence is absolutely necessary in the metabolism of the food, those intricate changes which transform the vegetable cells into fit food for animal tissues by such marvellous processes that even the balance of the chemist is not able to check the minute alterations that take place. When water is not present in sufficient quantity the processes of digestion are slowed down and those of waste removal checked, so that poisons form in the system which would not otherwise do so, and the products of protein digestion rapidly change into virulent poisons. When the blood is too thick from loss of water the body temperature rises and the system becomes more liable to attack by those poisons, and the young, both before and after birth, are seriously crippled in their struggle for existence, while thirst diminishes the desire for food, and purging, vomiting, paralysis ensue, and death does not loiter on his way.

The calf, with tissues of some 65 per cent. moisture, lives upon suction only, while the fat Merino, with less than 35 per cent., does very well upon the stubble paddock; the horse and cow standing midway must have ready access to water as well as feed. Much as the speaker dislikes quoting figures, the following are so striking that he cannot forbear reproducing them:—For every pound of dry food the pig requires 7lbs. to 8lbs. of water, the cow 4lbs. to 6lbs., and the horse 2lbs. to 3lbs. just as a maintenance ration. That is to keep life in the body, without considering such matters as the reproduction of the species, the making of milk for man's use, or the labour and sweat of the team. Now, do they get it? If not, is the shortage responsible for that lack of bloom, that want of roundness and plumpness, that gaunt stretching of skin over prominent bones, which so soon becomes a hide? If experience of thousands of dead and dying beasts in the famine-striken desert of India counts for aught, the answer would come back unhesitatingly—your cattle die for want of water, your store stock starve for want of water, your show stock is gaunt and light for want of water. The rounded rump is 50 per cent. water, the well-ribbed barrel is 50 per cent. water, the sleek smooth skin is padded out with 50 per cent. water. You pay a shilling a pound for it when you buy juicy English steak, and your canner adds it to the solid meat he has bought from the Australian grazier; he would pay you 2d. or 3d. a pound for it and be glad to do it, because frozen in the tissues of the carcase it would fetch him more on the quality of his export. Water adds weight, and nothing has struck the speaker so forcibly when on meat inspection duty as the low—very low—water content of the meat.

Not only does water make weight, but it actually favours the deposit of fat in the tissues; which means

all the difference between a poor carcase and a prime one. Now, do not think that—like the farmer who found the wheelwright put putty in his wagon to strengthen it, ordered the next to be built all of putty because he wanted that to be extra strong—our beasts should be wrapped in oilskins to conserve the moisture, for even with water, enough is as good as a feast, and excess leads to indigestion, waste of food material, and flabby muscles; but it seems like painting the lily and gilding refined gold to talk about an over supply of water here. However, what is pertinent to the district and conditions is this fact: The water contained in the food is of far greater feeding value to the animal than that taken as drink, and it is of great interest to read the tables so carefully worked by Prof. Perkins and his staff, and to note that the water content has a marked influence on the feed value of hay. Australia is deeply indebted to Prof. Perkins for the care and accuracy bestowed on those unique observations, as well as for his advocacy of succulent fodders like berseem. It is a fact worth noting that in the country once called the Ninety-Mile Desert, men now put down their 1000 acres of lucerne with every confidance, and are rewarded with the success they deserve; they are feeding water, and they find it pays.

Professor Lowrie insists, in season and out of season, on the preservation of the humus of the soil, and not only so, but tells you it must be got into the soil that has it not; he tells you it is the greatest moisture-conserving agent you can get, and he goes further and tells you how the green crop, be it rape or vetches, lucerne or mixed clovers, will help you to ward off those seasons of drought which hang so ominously over our heads. In one word, he is asking you to feed water. Doubtless many of you know how the beast has been dragged from death's door by copious drenches of pollard gruel, or some other mixture of which water has formed the greater part, and you will not be surprised to hear that life has often been saved by injecting warm water into an animal's veins. Our cereals contain about 12 per cent. water, our green fodders vary from 40 per cent. to 70 per cent., while our bleached straw has been treated by nature much as the chemist would do if he wanted to find out its constituents, without water; it has been kept for hours at a high temperature, and consequently contains very little indeed. If we watch our animals at ease in the paddock when out of work, we shall find that they do not drink often, once or twice a day under ordinary circumstances; but if we could check the observation we should find that they would drink from two to four times the weight of water more than the forage they eat, figures which closely approximate those quoted above if allowance is made for water in the fodder. It may be taken that an idle horse in ordinary weather will take about 7 galls. a day, but heat, work, and similar conditions will largely increase the quantity; for instance, a light horse kept trotting was satisfied with 3 galls., but immediately doubled his requirements when trotting with a load. When the horse is at rest and drinking 6 galls, he will pass 3 galls. in his dung, 1½ galls. in his urine, and 1½ galls. by his lungs and skin. Work will immediately alter this ratio, and this explains why the attack of stoppage of the water follows a hard day's work. Heat will make the lungs and skin do more than their share, and so explain why congestion of the lungs is likely to follow a very hot day's work. We notice that horses in the army or used by large coaching or carrying firms are generally plumper and in better condition than many on the farm, and we think how nice it is to have a nation's purse or a company's profits with which to feed horses. Armies and carrying firms do not keep horses for the fun of the thing, but they find that it pays to feed water. It runs through the pipes and costs nothing for delivery, and the collar does not gall or the saddle wring the horse that has as much as he wants. Sometimes we are shocked when we see such horses white with sweat going to the trough and drinking at their will. We are even more shocked when we see the hose playing over them. The Army has to keep fit, the company has to pay dividends, dead or ill horses will not help in either case, so they get good food little and often, and drink as just described; because physiology shows that a horse should drink before he gets his food, which will take some hours to digest, and so long as he not kept standing in a keen, cutting wind after, he makes better use of his food and water when he gets the latter first.

Cattle, on the other hand, have an arragement which enables them to make better use of water if they take it on the top of a certain amount of roughage, which will have to be re-chewed as cud. With the working horse, evaporation of water is so rapid that the functions of the various organs of the body are seriously interfered with if they have to draw entirely on the water contained in the cæcum or water gut, and, therefore, they will do much better if they have the chance of drinking at reasonable intervals during their work. We carry the water bag with us, but have an unreasoning fear of letting our horse do what we find necessary. He has as much sense as we have, and he will not drink too much if he can get it now and again; but, like ourselves, thirst will drive him to do stupid things, and his digestion will suffer in consequence. The wearied horse should not have too much, any more than a wearied man; but the latter is all the better for a glass of beer or a cup of tea, and so will be the horse for a half a bucket of water with a handful of oatmeal or pollard stirred up in it, or a few mouthfuls of lucerne or wetted hay followed by a moderate drink. Food and drink, little and often, for the working horse will keep him fit and free from sores or ailments. Succulent food will supply half the drink a cow needs, and nearly all a sheep wants, while the pig will thrive much faster if he has a liberal supply of wash than he would on dry stuff only; and with them all that is the end and aim of their existence, to give the best return in the shortest time for the least cost." (From the monthly Journal of the Department of Agriculture, South Australia).

HERMAPHRODITISM IN THE OSTRICH.

By Stanley Elley, M.R.C.V.S.

In April of 1910 I was requested by Mr. E. T. L. Edmeades, of Kamnatie and Vergelegen (Oudtshoorn) to castrate about a dozen cock birds which it was intended to use later as foster parents for young chicks. When I arrived at Kamnatie I saw the birds in the kraal, to all appearances fully grown male birds, with feathers of from four to five months growth. The birds were in good condition, some being red-legged. The first two birds were operated upon successfully, and the third bird was chloroformed; but after making the incision and attempting to locate the right testicle, no trace of it could be found. I was informed that all the birds were between seven and ten years old, so that the generative organs should be fully developed. My first thought was that the birds chosen by Mr. Edmeades for operation had by mistake been mixed with birds from Vergelegen, Mr. Edmeades' other farm, where, in 1909, I had operated upon a number of birds, but I was assured by Mr. Reggie Edmeades, who was present, that there had been no movement of birds between the two farms.

Failing to find the right testicle, I broke through the fold of peritoneum which normally separates the two testicles, and endeavoured to locate the left one,

but in place of a testicle I found what felt like a small ovary. Tracing this along, two flabby slightly elongated structures, somewhat the size and shape of an ordinary bean, were noticed, one attached to either side and the left about an inch anterior to the right. The whole mass was removed, and upon further examination proved to be an imperfectly developed ovary, to either side of which was attached a rudimentary testicle. The total weight of the ovary and testicles was barely two ounces.

After completing the operation I examined the bird "per cloacam," and found the penis was developed, but resembled that organ as seen in a young bird of about six months.

My reasons for recording this case are, firstly, that I believe it to be the first time that hermaphroditism in the ostrich has been recorded.

Secondly, that it may be of service to any other operator confronted with a similar case. Thirdly, since it may serve as a possible explanation of some of the cases of disappointment which one so frequently hears of when birds are camped off for breeding but fail to pair. Finally, if this case be taken as a type of all hermaphrodite ostriches, it supports the fact first noticed by Mr. Walter Rubidge, of Graaff-Reinet, and later confirmed by Mr. P. D. de Villiers, of Beaufort West, namely, that a large proportion of castrated hens acquire the characteristic plumage of cocks; for here was a bird which could not be classed as either cock or hen, but in which the female organs of generation were at least as fully developed as those of the male, and yet the plumage was most distinctly that of the male, showing that if there is a doubt about the sex, the plumage will incline to that of the male.—*The Agricultural Journal* (Cape of Good Hope).

The Relative Importance of the Bovine and Human Types of Tubercle Bacilli in the Different Forms of Tuberculosis.

A summary of published cases which bear on this problem, compiled by Park and Krumwiede is published in "Collected Studies from the Bureau of Laboratories, Department of Health, City of New York, 1912-13."

The total number of cases reviewed is 1511, of which over half (831) were cases of pulmonary disease. In this group bovine infection appears to be almost negligible, only four among this large number of cases showing infection from this source. Again, no instance of bovine infection was discovered among nine patients who suffered from tuberculosis of the axillary or inguinal glands, a remarkable contrast to the group of cases exhibiting cervical adenitis in which so far as subjects under 16 years of age are concerned the figures for the two sources are not far from equal—viz., 51 human and 44 bovine. Taking all ages together (in which the infection appears to be abdominal in origin), there are recorded 66 of human infection against 59 of bovine, while in children under 16 there are 34 human to 52 bovine—a striking preponderance. Taking the whole number of the cases together, there were 1363 of human origin, 137 of bovine, and 11 instances of mixed infection.

Mitchell, at the laboratory of the Royal College of Physicians, Edinburgh, found that of 80 cases of cervical adenitis in children 71, or 88 per cent., were due to bovine infection. Of 12 fatal cases of tuberculosis in children, four in which the disease appeared to originate in the mesenteric glands were due to the same source, while seven in which the bronchial glands were the seat of origin, and one case of genito-urinary disease in which the seat of original infection was not ascertainable, were caused by the human type of bacillus. Examination of the milk-supply of Edinburgh showed the presence of tubercle bacilli in 20 per cent. of the samples taken."—*The Lancet.*

[It should be noted that Mitchell, of Edinburgh, quotes only cases in children or young people. The grouping of "all ages together" partially obscures the point of his argument.]

Dr. T. Shennan, of Edinburgh University (*Lancet*, March 7th) says:—"In Scotland a large proportion of surgical tuberculosis is of bovine origin. The work of John Fraser is now well known. Of the 67 consecutive tuberculous bone and joint cases which he investigated the bovine bacillus was present in 41 (61 per cent.), the human bacillus in 23 (34 per cent.), while in three cases the bacilli were of intermediate type. In 41 of the children who were under four years of age 78 per cent. had been infected with the bovine bacillus. In *all* of those under 12 months of age the bovine bacillus was the cause of the disease, and every one of these had been entirely nourished on unsterilised cow's milk."

Vitamines.

Further research is tending to show that it would be profitable to study the action of vitamines from a pathogenic point of view. It is suggested in a valuable paper on Vitamines, by H. W. Bywaters, D.Sc., published in the October number of *Science Progress*, that in cancer, in which we have a pathological new growth of tissue, a special vitamine may be concerned. The question as to whether it is possible to inhibit this new growth by careful regulation of the diet with the view of excluding the vitamine has been raised. Experimental investigation at any rate so far seems to show that the vitamines for normal and cancerous growths are not identical, and it may prove to be possible to institute a diet that shall allow normal growth to proceed but which shall inhibit cancerous growth. Dr. Bywaters suggests that the minuteness of these vitamines which are requisite to maintain normal processes of life would appear to indicate that they have something to do possibly with the production of some of the essential hormones, internal secretions, enzymes, and so forth, in the animal organism. According to careful post-mortem examination of polyneuritic pigeons Casimir Funk found that this condition is associated with an extreme atrophy of the thymus, which suggests that the vitamine in rice has to do with the stimulation of this organ which evidently exerts its chief functions during the period of growth.

Altogether the relationship which appears to exist between vitamines and metabolism calls for a continued study of these interesting bodies. So far the recognition of their peculiar properties appears to threaten our rudimentary physiological principles. Dr. Bywaters instances the transformation of carbohydrate into fat which takes place on such a large scale where animals for market are fed on starchy foods. The starch and soluble carbohydrates in all such foodstuffs are reduced to glucose in the alimentary tract of these animals, and yet a food containing the largest amount of assimilable carbohydrate is by no means necessarily the most fattening. This would appear to show that something else is necessary to bring about the change from glucose to fat, and the suggestion is that this is a vitamine present in the outer layers of the grain in the different foodstuffs.

The remarkable instance is further quoted of the difference in the fattening properties of two well-known adjoining fields in the Romney marshes. The vegetation is apparently identical, but the deduction is that in one case a vitamine is at work and not in the other. —*The Lancet.*

The Tuberculin Treatment.

Early in the summer there was published a "Preliminary Report on the Treatment of Pulmonary Tuberculosis with Tuberculin," by N. D. Bardswell, M.D., with a prefatory note by Prof. K. Pearson, F.R.S. This was commented upon in *The British Medical Journal* of May 23, in which it is said :—

"Certain results emerge which are worthy of consideration. It seems clear that the occurrence of febrile reactions during a course of tuberculin treatment is a source of danger. Numerous clinical histories are cited in evidence, and the following conclusion is amply justified :

'It is not denied that a number of examples may be brought forward to show that reactions to 100·4° F, or even higher, *may* do no harm. Our own records prove this, but it is not to the point. So long as there is no evidence to prove that they are of any benefit, and a great deal of evidence to show that at any time they may do much harm, there can be no room even for discussion as to what is the correct practice.'

Further, the value of tuberculin in the treatment of favourable cases must still be regarded as dubious; some of the statistics lend support to the belief that the administration of tuberculin influences the course of the disease favourably, but Dr. Bardswell adduces certain reasons for not accepting the figures at their face value, and his plea for a suspension of judgment is strongly supported by Prof. Karl Pearson in a prefatory note.

Dr. Bardswell's provisional conclusions may be summarized as follows :

(1) Tuberculin as at present used is not a remedial agent which can be depended on to revolutionise either our sanatorium results or our conception of the outlook for the average consumptive. (2) The cases which may be expected to respond at least not unfavourably to tuberculin are those with a good outlook which have reacted well to general hygienic measures, and show evidence of constitutional vigour and recuperative power. (3) In a considerable number of cases tuberculin, so far as can be judged from immediate clinical results, has no obvious influence on the lesions. (4) Tuberculin cannot be looked on as a means whereby an unfavourable case can be converted into a favourable one, or as likely to turn the scale in the patient's favour when his progress is doubtful, and certainly not when it is definitely retrogressive. (5) Tuberculin is not suitable for routine administration, and its indiscriminate and careless use on a large scale can only end in harm."

[The matter is of interest to the veterinary profession only from the fact that statements in support of the curative effects of injections of tuberculin in bovines have not infrequently been made].

The Tuberculosis Order—Onus of Proof.

There was an appeal by William Brunton Robertson, Procurator-Fiscal, against a decision of the Midlothian Justice of the Peace Court, on a complaint charging George Binnie, dairyman, Bridge End Dairy, Liberton, with a contravention of the Tuberculosis Order of 1913, in respect that he had in his possession between 13th and 16th May, 1914, four cows which were affected with indurated udders, and did fail to give notice of the fact in terms of said Order. The Justices found the charge not proven ; and the Procurator-Fiscal applied for a stated case for the opinion of the High Court.

According to the facts set forth in the case, these four cows formed part or a herd of 72 cows kept by the respondent. The four cows in question suffered from indurated udders; their milk was found to be tuberculous ; and they were ultimately condemned and slaughtered at the instance of the Midlothian Local Authority. It was also found that the respondent exercised personal supervision over the dairy business, and that he assisted with the milking. He did not give notice under the Act, and he did not call in a veterinary surgeon. The Justices said they had a doubt about the case in respect they were not satisfied that the appellant had discharged the onus of proving that the respondent knew, or could with reasonable diligence have known, that the cows were affected with indurated udders ; and they accordingly found the charge not proven. The appellant maintained that the onus was on the respondent to prove that he did not know or could not with reasonable diligence have known of the existence of the disease.

The Court sustained the appeal, the Lord Justice General stating that the onus was clearly on the accused, as maintained by the appellant. His Lordship also expressed the opinion that on the facts there ought to have been a conviction. No remit, however, was made for a conviction and sentence, and the appellant did not press for this. The appellant was found entitled to expenses.

A preliminary objection was stated by counsel for the respondent to the minute by the clerk of the Justice of the Peace Court, in respect that the finding was ambiguous and undated. This objection was repelled, though the Court expressed the view that there was an irregularity, which, however, had not prejudiced any one.

Counsel for the Appellant—Mr. Cooper, K.C., and Mr. Mitchell. Agents—G. M. Wood and Roberton, W.S.

Counsel for the Respondent—The Hon. W. Watson, K.C., and Mr. Dykes. Agent—Thomas J. Cochrane, S.S.C.—*The Scotsman.*

Commenting on the foregoing, *The North British Agriculturist* says :—"It has always been clear to us that the onus of seeing that his cattle were not tuberculous lay, under the Order, upon the owner. But it has equally been recognised that it was in many cases difficult to say when an owner was exercising due diligence towards that end, and when he was not. The Appeal Court seems to lay it down that failure to recognise that something is wrong is a fault—or at any rate that the owner must take the responsibility when he does not take proper steps to see that his animals are thoroughly sound and healthy in their udders. The only safe course, accordingly, when anything is seen to be amiss with their cattle will be for owners to report each case and let the rest lie with the representatives of the Local Authority. This may imply hardship in genuine cases of ignorance, but it is apparently the only way to be thoroughly safe."

The Local Therapy of Tetanus.

A large number of cases of tetanus have been reported as occurring among the soldiers wounded at the front, and it may not be out of place to draw attention to an article on this subject by Dr. G. Vitello published in *Il Morgagni* of July last. The writer urges that, although tetanic spores resist the action of antiseptics, they are not of themselves capable of producing the intoxication. In order that they may be put into a condition to secrete the toxins it is necessary for them to be bacterially associated with other micro-organisms which, being much less resistant to the action of antiseptics, can be easily destroyed, even by weak solutions. It is presumable, therefore, that in the disinfection of a tetanic wound the micro-organisms which are the

most efficiently destroyed are not the spores which resist for a long period the action of the antiseptic, but those micro-organisms which are found with them in the wound and which under natural conditions confer on them the faculty of virulence. If, on the other hand, the spore is alone and without the collaboration of these germs, it is not capable of secreting the toxins and remains inoffensive in the wound. It has, moreover, been experimentally demonstrated that rigorous antisepsis of wounds during the period of incubation is often successful in aborting the disease in its pretetanic phase. The use of tincture of iodine is to be strongly recommended for this purpose and Formiggini, in a case of tetanus which had developed subsequent to a wound of the upper eyelid and which he had treated by suitable disinfections with tincture of iodine, showed that in the bacteriological examination of material taken from the wound ten days after its occurrence, a bacillus was isolated, having cultural and morphological characters similar to that of Nicolaier, but which was not pathogenic to guinea-pigs and rabbits. Hence it may be argued with some degree of probability that tincture of iodine used in tetanic wounds has the property of rendering innocuous the specific micro-organisms, or of ensuring that should tetanic phenomena unfortunately make their appearance they will show themselves in a mild form.—*The Lancet.*

Fund for the A.V.C. with the Expeditionary Force.

Dear Sir,

I enclose a second list of money, donations and gifts of woollen articles which I have received since publication of previous list. Will you kindly allow this to appear in your next issue.

I would like again to thank all those who have so generously sent me gifts in money and in kind. I have already been able to despatch to the men of the Army Veterinary Corps now serving with the Expeditionary Force in France over 500 woollen garments and a very generous supply of tobacco and other comforts, but this is only a small part of what is yet required.—Yours truly,

ADELAIDE M. MOORE.

Cartington, Farnborough, Hants.
Nov. 2.

	£	s.	d.
Amount acknowledged to Oct. 31st	130	7	0
T. D. Lambert, Esq.	1	1	0
per Mrs. Butler	2	2	0
G. A. Banham, Esq.	5	0	0
F. Bullock, Esq.		10	0
Mrs. Hodgkins	1	0	0
Mrs. Gattay	1	0	0
Mrs. Edwards	5	0	0
Messrs. Pim Bros.	1	0	0
Mrs. J. O. Andrews		10	0
James Moore, Esq.	2	2	0
Mrs. Rampell	1	0	0
Alfred Over, Esq.	1	1	0
S. Chambers, Esq.	1	1	0
Mrs. Holmes	3	0	0
T. Salusbury Price, Esq.	5	0	0
Walter Edmondson, Esq.	1	1	0
Collected by Mrs. Rutherford	2	3	6
Mrs. Hunt		10	0
Colonel and Mrs. Walters	2	0	0
Mrs. Larnder	1	1	0
G. Mayall, Esq.		10	6
G. Foote, Esq.	3	0	0
C. Sheather, Esq.	5	0	0
R. C. Trigger, Esq.	1	0	0
Charles Morgan, Esq.	1	0	0
Mrs. Greenfield	1	0	0
E. R. Smythe, Esq.	1	1	0
Collected by Mrs. Smythe	10	8	0
James Martin, Esq.	1	10	0
Mrs. Proctor		5	0
R. E. L. Penhale, Esq.		10	6
Sir Francis Duck, C.B.	1	1	0
Mrs. Lawrie	1	1	0
Richard Burke, Esq., M.F.H.	1	0	0
W. G. Schofield, Esq.	1	1	0
F. J. Thornton, Esq.	2	2	0
Maj.-Gen. F. Smith, C.B.	3	3	0
Collected by Mrs. Male	1	0	0
Total	£203	2	6

Oct. 2.

Articles received by Mrs. Moore since the previous acknowledgment.

Mrs. Farrar: Belts.
Mrs. Miller: Mufflers and socks.
Mrs. Barker: Belts, scarves, and socks.
Mrs. Clair Ecroyd: Notepaper, etc.
Mrs. Cochrane: Cigarettes, pipes, etc.
Mrs. Holmes: Socks.
Miss Halford and Mrs. Dennis Eadie: Socks, tobacco, pipes, matches, and chocolate.
Col. Brown: Waistcoats.
J. M. Murphy: Waistcoats.
Miss Herring: Childrens skirts and dresses.
H. S. Dunne. Esq. Shirts, vests, and pants.
W. Dale, Esq.: Socks and shirts.
Mrs. G. Male: Waistcoats, socks, shirts, etc.
Mrs. F. Humphrey: Waistcoat.
Mrs. Jeffreys: Waistcoat and coats.
Mrs. Bolton: Belts and cuffs.
"Anonymous": Helmets and chocolate.
Mrs. Thornley: Gloves.
Mrs. Moscrop: scarves, socks, cuffs, helmets, etc.
H. J. Jones, Esq.: Waistcoat.
Mrs. Robert Lees: Gloves.
Mrs. Mitchell: Socks
T. G. V. Brockley: Belts, pipes and tobacco.
Mrs. Nuthall: Mits, helmet, scarves and socks.
Mrs. Cockerell: Socks, cuffs, pipes, etc.
Mrs. Todd: Shirts, helmets, mufflers, belts, socks, writing pad.
Mrs Percy Samuelson: Shirts and waistcoats.
Miss K. Clowes: Belts, muffler and socks.
Per Mrs. O'Rorke: Shirts, socks, helmets, etc.
Mrs. Garvie: Belts, Socks, helmets, tobacco, etc.
Mr. Garland: Mufflers, shirts, belts and pants.
Hugh MacCormack, Esq. (2nd parcel): Socks, caps, mufflers, etc.
R. C. Trigger, Esq.: Vests, pants, socks, belts and papers.
Mrs. Rutherford (2nd parcel): Socks, Cardigans, belts, caps and mits.
W. G. Schofield, Esq.: Waistcoat, stockings, tobacco and pipes.
Mrs. Burke Savage: Socks, belts, etc.
Per Mrs. Garnett: Shirts, mufflers, socks, mits, cuffs, belts and caps.
Mrs. Quinlan: Shirts, mufflers, socks, mits, cuffs, belts, caps, helmets and writing materials.

Collection for Mrs. Moore's Fund per Mrs. Mettam, R.V.C.I., Dublin (3rd List).

Previously acknowledged	£48	15	6
J. D. Richardson, Dublin	1	1	0
W. H. Bloye (F), Plymouth	1	1	0
D. S. Prentice, Dublin	1	0	0

Mrs. W. Brennan DeVine, Birmingham		10	0
J. McKenny, Dublin		10	0
L. M. Magee, Dunboyne	1	1	0
J. B. Hare, Navan	1	1	0
A. Inglis McCallum, Edinburgh	2	2	0
B. P. J. Mahony, Maryborough	1	1	0
Total of Fund £212 9s. 6d. Nov. 3.	£58	2	6

Milk and Dairies Act.

At the annual meeting of the Scottish Chamber of Agriculture held in the Religious Institute Rooms, Buchanan Street, Glasgow, on Wednesday, 28th Oct., Mr. John Findlay, Springhill, Baillieston, opened a discussion on the Milk and Dairies (Scotland) Act, 1914, and moved that the coming into operation of this Act should be delayed as long as possible. He said that they would all agree that the proposal now made was a reasonable one. The war had been the cause of much legislation being postponed, and the Milk and Dairies Act was one that could be held over without much loss to any one. There was a great cry about this Bill when it was passing through Parliament, as if it was going to revolutionise the milk trade. He never thought so. They had a very good milk Act at present. Under this new Act veterinary inspectors would have to be appointed, and it would be unfortunate if this had to be done while others of the profession, as many of them were, were fighting for their country at the front. Mr. Findlay then went on to refer to the Act as it affected dairy farmers.

Mr. James Scott, who spoke on behalf of the Dairy Shopkeepers of Edinburgh, seconded the motion.

Mr. Howie, Towerlands, Irvine, moved that they do not ask for delay, but allow the Act to come into operation, as had been decided upon by the Legislature. He had, he said, a good deal of sympathy with what had been said to the effect that some veterinary surgeons would be serving with the colours, but he had no doubt that the local authorities would remember these gentlemen.

In the course of some further discussion, it was pointed out that the Act came into operation on 1st January, 1915, but the Local Government Board, on representations being made to them, might postpone the coming into operation of the measure till a date not later than the 1st October.

Mr. Archibald MacNeilage, Glasgow, said that the motion as framed, and the speech by which it was supported by Mr. Findlay, might convey the meaning that the Chamber did not want that Act at all—that they did not care whether it ever came into force—for the proposal was that it should be delayed as long as possible. There were two reasons why the Act should be delayed in its coming into operation. (1) The absence of so many veterinary surgeons at the front. (2) The Tuberculosis Order has been suspended and it was a fact that both the English and Scots Acts were designed to be worked in harmony with the Tuberculosis Order. It was scarcely possible to work the Milk and Dairies Acts irrespective of the Tuberculosis Order. These reasons should be stated. They should not endorse a motion of this kind, which might be read in many ways. He suggested that the words "as long as possible" should be deleted from the motion, and that they should add that "a representation in favour of delay should be made to the Local Government Board."

Mr. H. W. B. Crawford, of Chapmanton, Castle-Douglas, supported the proposal made by Mr. Mac Neilage.

A member of the retail milk trade said that if the Act was to come into operation on the 1st January and operate as he understood it would, he could assure them that it would shut up half the milk shops in Scotland because of the air space and other nonsense. (Laughter). He believed that health considerations were necessary, but he thought the existing sanitary regulations in force in Scotland were quite sufficient.

Mr. C. M. Douglas, of Auchlochan, Lesmahagow, suggested that the wording of the motion should be altered as follows:—"In view of the present conditions, the coming into operation of the Act should be delayed, and representations should be made to the Local Government Board to that effect."

This proposal was unanimously adopted, and the subject then dropped.—*The Scottish Farmer.*

Hunting Memorial Fund.

Subscriptions received up to 7 p.m., Nov. 4th, 1914

Amount previously acknowledged (*vide Veterinary Record*, July 14, 1914)	£324	9	0
Henry J. R. Pope, Esq., 126 Holland Park Avenue, W.	1	1	0
John Malcolm, Esq. (F), Holliday Wharf, Birmingham	2	2	0
The Central V.S., London, per E. Lionel Stroud, Esq. (F), Treasurer	21	0	0
	£348	12	0

Remittances to be made payable to the "Hunting Memorial Fund," and crossed "The London, City, and Midland Bank, Ltd., Kensington Branch."

HENRY GRAY, M.R.C.V.S., Hon. Sec. & Treas.
23 Upper Phillimore Place, London, W.
November 4.

ARMY VETERINARY SERVICE

Extract from *London Gazette*,

WAR OFFICE, WHITEHALL, Nov. 2.

TERRITORIAL FORCE. ARMY VETERINARY CORPS.

Lieut. E. E. Seldon to be Capt. Dated Nov. 3.
H. D. Sparrow to be Lieut. Dated Oct. 5.

Nov. 3.

Supplementary to Regular Units or Corps.

ARMY VETERINARY CORPS.

C. Tracey to be Lieut. (on probation). Dated Oct. 22

Nov. 4.

REGULAR FORCES. ARMY VETERINARY CORPS.

The following notification is substituted for that which appeared in the *Gazette* of Oct. 2.: To be temporary Lieuts:—

A. O'Neill, C. T. Bray. Dated Sept. 1.
J. N. Cooper, D. Hannay, E. A. Wilshaw, J. W. Reynolds, G. T. F. Budge, J. Hill, C. W. Makinson, J. Bradley, Dated Sept. 7.
P. A. Wilks, A. C. Smart, T. C. Howatson, A. F. Dykes. Dated Sept. 8.
F. S. Stanley. Dated Sept. 10.
T. Hogg, F. B. Barling. Dated Sept. 11.
J. Pollard, J. B. Walker. Dated Sept. 12.
R. C. Allinson. Dated Sept. 13.
R. S. Collihole, J. Godber, J. E. Young, T. M. Doyle. Dated Sept. 15.
R. J. Collings. Dated Sept. 16.
R. P. Johns, A. Jackson. Dated Sept. 18.
J. P. Dunphy. Dated Sept. 19.

Nov. 5.

TERRITORIAL FORCE. ARMY VETERINARY CORPS.

R. Simpson to be Lieut. Dated Nov. 6.
T. Craig to be Lieut. Dated Nov. 6.

Donations to R.C.V.S.

The Secretary of the Royal College of Veterinary Surgeons begs to acknowledge the receipt of the following donations to the College Funds:

Mr. A. E. Willett,	Staines	£1	1 0
F. W. Willett,	„	1	1 0

With a view to inducing farmers in the Southern States to grow beef cattle, the American Department of Agriculture, whose duty it is to figure for the extension of all branches of animal industry, are planning for a 500-acre live stock demonstration farm in Louisiana. It will be the first of its kind in the country. There are breeding farms maintained by other Governments, but so far as known this is the only one the primary purpose of which is to develop breeds of cattle entirely for their beef-producing qualities.

Personal.

CORNISH-BOWDEN.—On the 1st Nov., at 127 High Street, Beckenham, Kent, the wife of A. Cornish-Bowden, M.R.C.V.S., of a son.

GREENFIELD.—On the 1st Nov., 1914, All Saints Day, at the Brown Cottage, Bickley, Kent, the wife of Capt. Greenfield, A.V.C., of Tien-tsin, China, of a daughter.

OBITUARY

THOMAS PRATT, M.R.C.V.S., Ripon, Yorks.
Graduated, Edin: Feb., 1867.

Mr. Pratt died on Tuesday, Nov. 3. Aged 82.

TUBERCULIN TEST.

Dear Sir,

Re bull, Lord of the Wave. Seeing this bull was tested by two independent veterinary surgeons and failed to pass, and that on post-mortem Mr. Sidney Smith, M.R.C.V.S., reported all organs sound and no trace of anything like tuberculosis, I think for the guidance of the veterinary profession we would like to know the grounds on which that opinion was formed. Did Mr. Smith examine carefully every lymphatic gland of this bull, and was every organ subjected to a microscopic examination?

The question in such cases is this: unless a carcase is confiscated and given up wholly for microscopic examination, how can a veterinary surgeon give a definite opinion as to whether tuberculosis is present or not?

A carcase may be fit for food and show no manifestations of tubercle externally, and apparently every organ on section healthy to the naked eye, but that does not warrant a carcase to be described as free from tubercular infection.

We hear so much about this failing to pass the test, and the animal on post-mortem healthy—which to the lay mind is equivalent to being tubercular free—that veterinary surgeons especially ought to be very careful and guarded in giving a professional opinion on such cases.—Yours truly,

J. B.

SHORTAGE OF VETERINARY SURGEONS.

Sir,

The letter of "A Local Inspector" contains matter which is controversial and evidence of having been written without much consideration of the subject.

One absolutely fails to follow the idea that if the local veterinary inspectors were employed much expense would be saved. "Local Inspector" surely does not need reminding that the whole time veterinary inspector of the Board investigates many more cases of suspected swine fever in a day than does the part time official, and the former's daily salary is from ten to fifteen shillings, whereas the part time inspector receives one guinea per case (except in the case of second visits).

The whole timer is better equipped for the duties connected with state medicine, having received full training in the work from brother officers of the Board.

Nearly every one of the whole time veterinary officials of the Board have had a large experience of foot-and-mouth disease and the procedure adopted in fighting it, and methinks it would be the height of folly to employ for patrol work connected with this disease local practitioners. Had "Local Inspector" suggested that the large staff of lay officials employed by the Board be asked to enlist it would have been more businesslike, as such men should absolutely have nothing to do with diseases of animals, more especially the scheduled ones.

The Department of Agriculture in Ireland appear to manage very well without lay officials.

"DUNEDIN."

A QUESTION OF PRECEDENCE.

Sir,

My attention has been drawn to a letter and illustration in your paper *re* the Welsh Division A.V.C. (T.) and it is hardly correct to say that that was the first veterinary section to be formed

Recruiting was commenced the first week in July for the section under my command, which on mobilisation was at full strength. The photograph which appeared showed the Welsh Division with only 28 officers, N.C.O's. and men instead of the full establishment of 34.

A draft of 12 N.C.O's. and men have already left this section for active service with the Expeditionary Force, and a similar number are under orders and fully equipped, to move at a moments notice. I hope, therefore, to claim precedence for this section.—Your obedient servant,

E. FRANKLIN,
Major C.M.D.G., S. Midland Div. Vety. Hosp.
Leamington, Nov. 4th.

Housing of Cattle.

To the Editor of the Live Stock Journal.

Sir,—Soon the cattle will be housed for the winter, and may I again urge upon agriculturists the vital importance of keeping the young stock off the general fæces of the farm in covered dung steads? Every healthy head of stock is a national asset and will be wanted, and I have absolute proof that the exposure of young cattle to diseased fæces in covered yards is nothing short of suicidal. The text-books upon the construction of farm buildings need revision. We want a cheap up-to-date dung covering for the dung only, but away from the farm buildings. It can also only be a matter of time before the present system of keeping the winter dung in covered yards adjacent to the milking sheds and turning out the milking cows daily upon it is vetoed.—Yours, etc.,

R. H. GREEN.

Willesborough, Kent.

[A vigorous discussion on this question in the agricultural press last year was initiated by Mr. Green. The arguments are set out as follows in one of his earlier letters].

"We know, upon the authority of Prof. Nocard, that not one calf in ten thousand is born diseased. We also know that young cattle are rarely infected through the milk of the mother or foster-mother, because only about three per cent. of tuberculous cattle have a lesion in the udder, and it is only when a lesion discharges into the flow of milk that danger from it may be anticipated, to quote Prof. Wallace.

The English Royal Commission found that cows suffering from extensive tuberculosis of the lungs must discharge considerable numbers of bacilli from the air

passages in the act of coughing, and some of the bacilli thus expelled may find their way into the milk. But also the experiments indicated *that the excrement of cows obviously suffering from tuberculosis of the lungs or alimentary canal must be regarded as much more dangerous* than the matter discharged from the mouth or nostrils. They found that even in the case of cows with slight tuberculous lesions tubercle bacilli in small numbers were discharged in the fæces, while from cows clinically tuberculous the fæces contained large numbers of living and virulent tubercle bacilli. Therefore I consider the raising of young cattle on the manure of the farm in covered buildings is suicidal and a chief source of infection, because :—(1) With the desiccation of the manure in covered yards, the air is charged with bacilli—not only the bacilli of tuberculosis. (2) Cattle have a habit of licking themselves, and when they are raised in covered yards, and at the most susceptible age, the hair becomes impregnated with the germs of disease from constantly lying upon the manure. (3) Cattle pick up pieces of hay and straw off the manure in covered yards as they become dry and eat them, thus they are infected, not only from inhalation but ingestion. (4) The ammoniacal atmosphere in covered yards is prejudicial to good health. The coats of cattle kept in covered yards through the winter thus robbed of nature's bath., will be found in an unhealthy condition and swarming with lice.

It is direct evidence which is badly needed at the present time. I have endeavoured in a small way with the aid of three veterinary surgeons to obtain this. On the one hand we took a group of cattle brought up on the manure in the covered yards, and nearly 75 per cent. failed to pass the test. On the other hand we took a group of cattle raised off the manure in the open air, and every one passed the test. I do not say that these trials are conclusive, but I would suggest that similar experiments be carried out over a wide area.

Young cattle should be raised under natural conditions, exposed to sunlight, air, and rain, and not crowded together on the manure of the farm in covered yards—contrary to the first principles of the laws of health."

Prescribing and Prescription Writing.

By I. L SALLEY, D.V.S., Skowhegan, Me. Read before the Maine Veterinary Medical Association

From time immemorial it has been the custom of veterinarians, and physicians as well, to use certain favourite prescriptions which have been handed down from ages. These prescriptions were compounded many years ago by men whose scientific knowledge could not be up with men of to-day, and some of them probably by quacks.

In the beginning of the practice of medicine all were quacks, for, of course, they had no schools upon medicine to attend. no books to read as we have. It is not at all surprising if these men should try and get a little of almost everything into their prescriptions, so that if one thing does not hit the case something else will. These men were guessing, and it is probably the case that they figured that the more shot they had in their charge, the more likely they were to hit the mark. I don't suppose they took into consideration what damage they might do to things surrounding the mark by stray shot. You have heard of these gunshot prescriptions, and I presume part of us have used them,

But in this we may excuse ourselves, and lay part of the blame to our Alma Mater. Who of us cannot remember the colic drenches, fever mixtures, and tonic powders, etc.. which we were taught to use. What the actions are, of some of these mixtures I have seen, it would take an expert with a big piece of paper to figure out.

I am not blaming the schools, for the professors were taught these things by their teachers, and so on it has been handed down. Neither am I trying to criticise anybody : what I am trying to point out is, that I believe the use of conglomerations is not scientific and should not be used by men who pretend to treat disease in a reasonable way.

It is all well enough for the quack to use these prescriptions with all the drugs in the pharmacopœia, because he has to ; he is guessing all the time. But there are many things that a D.V.S. ought to know, and I believe he ought to apply this knowledge in prescribing and compounding the medicine for his patients.

Some may think that if they can write a prescription with a lot of symbols that the laity do not understand, that their knowledge will appear to be according to the length of their list of drugs. I believe it better, in writing a prescription, to use just as few drugs as possible ; very often one alone, sometimes two, with possibly a vehicle and maybe a corrective ; but seldom should we need more.

I also think it better to carry in our cases straight drugs mostly, and mix them for each individual case at the time ; for we will seldom find the same disease that requires just the same treatment. Hence, in the colic drenches we seldom find a case of colic that requires all of the things in the drench, and if a drug is not required it had best not be given. I do not believe in taking medicines to keep well ; they should only be taken to correct some defect, and when the trouble is removed, stop the medicine.

When called to treat disease first make an accurate diagnosis, as you can then give the least number of drugs possible to correct the trouble, and give in doses large enough and long enough to get the full effect of the medicine, and carefully watch the result.—*Amer. Vet. Review.*

Cyclist and Dog.

At the Torquay County Court, before his Honour Judge Lush Wilson, John R. Watson, a builder, sued Mr. N. Wright, veterinary surgeon, for £17 12s. 3d., damage for alleged negligence in managing dogs.

Mr. E. Hutchings for plaintiff, said on July 20th, Mr. Watson was riding a motor cycle from Torquay towards Newton Abbot, when he met defendant walking with five or six dogs towards Newton. Plaintiff slowed down on approaching, and as he came near one of the dogs—a setter, he believed—jumped at him. He evaded this one, but it excited the others, which were all over the road, and they all went for him. He was thrown from his machine, his clothes were torn, and he suffered personal injuries. After the accident, defendant remarked that the dogs did not belong to him, and that he was unable to keep them under control. Mr. Hutchings contended that anybody who took dogs on the highway and did not keep them under proper control was responsible.

The Judge : Suppose a master takes a pack of hounds, would he be liable ?

Mr. Hutchings : I think there is a duty cast upon him to keep them under control.

The Judge remarked that there was an obligation, in the event of an animal being vicious, to keep it under control, but he would not be liable unless he had knowledge of the viciousness.

Mr. Watson said he had pieces of skin knocked off, and was unable to do anything for a fortnight, the damage to his machine was £5 2s. 3d., and his clothes torn, this being estimated at £2 10s.—In answer to Mr. Almy, plaintiff denied that the dogs were at heel ; he

sounded his hooter all the time. Mr. Wright gave him his name, and asked him to send the amount of the damage to him.

Albert V. Bannister, Warborough Road, St. Marychurch, also gave evidence, saying Mr. Weston had slowed down to five or six miles an hour, when a brown dog charged him. He evaded this, but went over a smaller white dog, as far as he could see The lady with the defendant said, "Come along; only the pedal is bent."

Mr. Almy submitted that for the defendant, Mr. Watson had failed to make out his case. On a point of law, plaintiff could not succeed unless he could show there was vicious propensity on the part of these dogs, of which Mr. Wright was aware.

William Neville Wright said while walking out with his wife and daughter and dogs, a motor cyclist went by all right, but plaintiff, who was about 60 or 100 yards behind, went over the terrier, which was crossing the the road. He had the setter on a lead, and it did not attack plaintiff. None of the dogs were vicious; he should not take them out if they would misbehave. The terrier's neck was knocked awry, and his wife carried it for some distance until it recovered. He asked Mr. Watson if he was insured, because he did not think it was his fault; it was a pure accident. Witness denied that he said the dogs were not under control, or that he asked plaintiff to send a statement of the damages. The first time he heard about the dog attacking plaintiff was in the summons. In plaintiff's letter to him he referred to the dog as colliding.

Mrs. Wright and Miss Wright denied that a dog attacked Mr. Watson, and two other witnesses said there was no barking.

His Honour, in giving judgment, said there was no obligation on an owner who took a dog loose on the highway unless he knew it was a source of danger to people using the highway. There was no evidence of negligence. Judgment would be given for defendant.—*The Express and Echo* (Exeter).

Tuberculous Meat.—Butcher sent to Goal.

At Sheffield, on Wednesday, 21st ult., Sidney Pasley, frozen meat dealer, Penistone Road, and Francis A. Goss, butcher, Leader Road, Hillsborough, were summoned for having in their possession the carcase of a cow which was unfit for food.

Mr. Varley (for the Corporation) said the fact that fresh meat was seen at Pasley's shop aroused the suspicion of Police-constable Barton. As a result, Mr. Lloyd, veterinary surgeon, went to the shop, and found a forequarter of a beast and two hindquarters quite unfit for food. There was considerable tuberculosis. Goss said he could not make a living out of frozen meat because of the rise in prices, and he had a mother and wife and children to keep. Pasley added that he knew nothing of the fresh meat trade, and bought the cow on Goss's advice, agreeing to share in the transaction. He did not know the cow was diseased, or he would not have bought it.

The Chairman of the Bench (Alderman A. J. Hobson) said the magistrates had decided to fine Pasley £2 and costs. Previous fines did not seem to deter Goss. He must have known perfectly well that the carcase was wrong, and he would have to go to prison for two months.—*M. T. J.*

DISEASES OF ANIMALS ACTS 1894 TO 1911, SUMMARY OF RETURNS.

Period.	Anthrax		Foot-and-Mouth Disease.		Glanders.†		Parasitic Mange. ‡		Sheep Scab.	Swine Fever.	
	Outbreaks (a)	Animals.	Outbreaks (a)	Animals.	Outbreaks (b)	Animals.	Outbreaks (b)	Animals.	(b)	Outbreaks (a)	Slaughtered. *
GT. BRITAIN. Week ended Oct. 31	10	11	2	17	3	6			1	99	702
Corresponding week in 1913 ...	6	7			3	6	25	44	7	62	710
Corresponding week in 1912 ...	11	11			6	17	22	32	22	49	880
Corresponding week in 1911 ...	20	22			3	12			7	33	578
Total for 44 weeks, 1914	620	679	24	125	86	265	1548	2683	159	3682	35509
Corresponding period in 1913 ...	458	507			130	322	2103	4158	148	2110	27650
Corresponding period in 1912 ...	650	732	82	639	154	288	2502	5317	208	2528	34377
Corresponding period in 1911 ...	743	917	18	467	180	431			323	2114	25393

(a) Confirmed. (b) Reported by Local Authorities. † Counties affected, animals attacked: London 6.
Board of Agriculture and Fisheries, Nov. 3, 1914

IRELAND. Week ended Oct. 31	...	...	...	...	...	...	Outbreaks 1		5	6	13
Corresponding Week in 1913 ...	...	...	...	...	1	1	1		6	...	45
Corresponding Week in 1912 ...	...	...	1	18	...	...	...		5	4	22
Corresponding Week in 1911 ...	...	...	...	...	...	...	...		2	2	78
Total for 44 weeks, 1914 ...	1	1	76	955	...	...	71		434	178	875
Corresponding period in 1913 ...	...	...	...	...	1	1	110		429	126	822
Corresponding period in 1912 ...	3	3	66	374	...	...	58		290	198	1 603
Corresponding period in 1911 ...	7	14	...	...	2	3	53		283	115	2001

‡ The Parasitic Mange Order of 1911 has been suspended as from 6th August.
Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, Nov. 2, 1914
Note.—The figures for the Current Year are approximate only. * As Diseased or Exposed to Infection